

particular package, so award to a particular Systems Integrator must not be assumed until specifically notified that the work has been awarded to them.

The District intends to contract with the selected Systems Integrators for a period of one year, from January 2002 and ending December 2002. The Systems Integrators will be issued notices to proceed for projects that begin construction during that one year period for which the installation of the LAN equipment may occur up to 9 months after the start of construction. The District will evaluate the performance of the selected Systems Integrators near the end of the one year term and may elect to issue a new RFI to select Systems Integrators for the next one year period.

Development of Work Plans for each school:

The Systems Integrator will present Work Plans to the District for acceptance before a Notice to Proceed will be issued. The Work Plans will define the scope of work, specifications, schedules, and acceptance and completion criteria for each task and each school and a firm fixed price to perform the Work. Changes (e.g. in scope of the Services hereunder) must be mutually agreed-upon prior to beginning work. Work Plans will be reviewed and either returned for changes or approved within a maximum of 30 days from the date of submittal.

At a minimum the work plan should describe:

1. The System Integrator's safety plan for day-to-day work on the school site.
2. Specific identification (type and location) of any hazardous materials (asbestos, lead based paint, etc.) that may be encountered
3. List of all equipment to be installed, and location of said equipment (switches, MDFs, BDFs and CDFs).
4. Power requirements to support the LAN hardware.
5. The System Integrator's on-site administrative and staging areas, if any.
6. Quality Control Plans must be submitted to the District with the work plans.
7. Phasing plan for executing the work. Must show when work will start at each site, when deliveries of supplies and equipment will be made, when each building and classroom will be needed for completing the connections, and completion date at the site.
8. Plan to transition existing network to the new network
9. Plan for storing and safeguarding delivered supplies and equipment prior to installation.
10. A list identifying on site employees, vehicles and equipment.

Status Reporting

The System Integrator shall provide a weekly written status report which includes:

- 1) A review of work performed for the week concluded
- 2) A listing of work to be performed over the next three weeks
- 3) A listing of any problems encountered or foreseen with suggested solutions

These reports will be distributed to the District Representative

#### Testing and Acceptance

A test and acceptance plan will be provided as part of each Work Plan. The Test and Acceptance Plan will include the scope of testing, test plan objectives, applicable standards, responsibilities, test schedule, test procedures, acceptance criteria, corrective procedures, test and acceptance reporting and test equipment. Additionally, the System Integrator will be expected to perform Visual Inspection of the installation of the cable plant and, review the General Contractor's cable testing plan, accept the General Contractors Category 5e UTP Cable Tests and Fiber Optic Cable Tests. The Systems Integrator may hire an independent testing agency to verify the cable test results. The Systems Integrator will plan and perform Network Performance Tests, Network Connectivity Tests and Physical Configuration Audit.

#### Training Program:

The Systems Integrator and the District will plan and implement a training program for selected District staff in the operation and maintenance of the completed system. Training modules will consist of a combination of appropriate classroom and hands on training. The District shall have the right to deliver, reuse and customize Systems Integrator provided training modules as long as the LAN equipment installed under this contract is in use.

The Systems Integrator shall provide classroom based, vendor provided training for the following:

- 10 people trained on the operation and maintenance of the hardware
- 10 people trained on configuring and programming the LAN network.
- 25 people trained on general operation and trouble shooting of the LAN.
- 10 people trained in the use of the Network Administration software
- 5 people trained in the use of the Asset Management software

#### Equipment Manuals:

Provide equipment manuals for all significant devices constituting the LAN to the District.

#### Replacement Parts

The Systems Integrator shall indicate the number of years replacement parts will be available for the hardware installed. If replacement parts are not available within that timeframe, Systems Integrator shall provide for substitute parts or replace the equipment.

#### Substitution of Hardware

During the term of this contract, Systems Integrator may propose substitution of hardware, including the supporting software or firmware, of equal or greater functionality, capacity and performance for the listed equipment, at any time during the life of the contract. The proposed substitution hardware can not result in any additional purchase or maintenance costs to the District. All proposed substitutions are subject to approval by the District.

#### As Builts:

Develop as-built drawings of the completed system in electronic format (District designated version of Visio) within three (3) weeks of completion of physical work at each school site. These shall be delivered to the District prior to beginning of the acceptance testing by the District. All hardware will be tracked using a commercially available Asset Management Software program to be provided by the Systems Integrator to the District. The Systems Integrator is required to tag, inventory and track all hardware upon receipt in the System Integrator's warehouse according to District requirements.

Quality Control Plan:

Prepare a Quality Control Plan to describe how the System Integrator will ensure the timeliness, cost control, and quality of his work under this contract. This QCP must be submitted to and approved by the District along with the work plan. It must identify whom the System Integrator's primary person will be for inspection of the materials received, quality of the work performed, and safety of the job site.

Project Manager

The System Integrator shall assign a responsible project manager full time for this contract. The Project Manager shall be the primary point of contact for the SDUSD in executing the contract and available by mobile phone during working hours. The Project Manager shall maintain a project file containing all pertinent correspondence and criteria, including written and signed approvals for any deviations to this Scope of Work. The Project Manager shall prepare written summaries of any meetings, field investigations or site visits, and significant discussions with school officials regarding the conduct of the work. These shall be provided immediately to the SDUSD. The project file shall be available to the SDUSD on request.

Project Plan Development

In order to develop the LAN architecture, the District's Design Architect will provide school facilities plans to the Systems Integrator.

Warranty

The System Integrator will provide a two (2) year warranty on the entire LAN and the hardware and other devices provided by the Systems Integrator as part of this contract. A warranty for an "integrated system" refers to two or more hardware and/or software networking components merged together into a single system that performs a specific task or set of tasks.

Maintenance

The Systems Integrator shall include a three (3) year maintenance agreement covering all the hardware and software, including firmware, provided by the Systems Integrator as part of this contract. The maintenance service shall be on a Monday-Friday 7AM to 7PM on call basis.

Payment Process:

The District will pay The System Integrator 50% of the non-SLD funded portion after the District deems the installation complete, an additional 40% after successful performance testing of the installed LAN at each school campus. The remaining 10% within 30 days after submission and acceptance by the District of

all required documents including warranty, as-builts and successful completion of all other contract requirements such as training.

#### Prevailing Wage

The Systems Integrator shall comply with the requirements of California Labor Code Regulations that require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects ("Prevailing Wage Laws").

San Diego Unified School District operates an Initially Approved Labor Compliance Program initially approved September 14, 2000. This approval grants exemptions per Labor Code 1771.5 (a) and applies to all Public Works contracts with the District.

For questions or assistance concerning the Initially Approved Program contact the Labor Compliance Office, 2351 Cardinal Lane, San Diego, California 92123 or phone 858-496-8005.

Each System Integrator awarded a contract must have an agent of the firm appear at the Labor Compliance Office, 2351 Cardinal Lane (92123), telephone: (858) 496-8005 to sign documents required by the California Labor Code and to receive proper State forms for the reporting of certified payroll. Except as may be otherwise required by law, all claims and disputes pertaining to the classification of labor employed on the project under this contract shall be decided by the District's Labor Compliance Officer or the Director of the California Department of Industrial Relations.

#### Disadvantaged Business Plan

The System Integrator shall indicate their plan to incorporate Disabled Veteran Owned Businesses in their team.

#### Fingerprinting

The System Integrator and all subcontractors shall obtain a criminal history clearance in conformance with California Education Code Section 45122.1 through the California Department of Justice fingerprint program. The System Integrator shall not permit any employee or any subcontractor's employee to perform services at a school campus until the California Department of Justice has determined that the employee has not been convicted nor has criminal charges pending of a felony offence as defined in the Education Code section 45122.1

#### Performance and Payment Bonds

The System Integrator shall provide Payment and Performance Bonds in the amount of 100% of the Purchase Order Amount prior to beginning work on any component of the work. The System Integrator team shall include a firm with a California Class C Contracting License.

#### Hours of Work

The work at school sites must be coordinated with the District. It is the intent of the District that the LAN hardware will be installed and tested at any time during the school year. Therefore, during active school periods, the Systems Integrator must perform work during non-school hours. These hours will be from 3:00 PM – 11:00 PM and anytime weekends unless permission is granted in writing.

#### Liquidated Damages

The Systems Integrator agrees to liquidated damages of \$1,000 per day, per school, as described in CMAS. Liquidated damages are the sole and exclusive remedy for late completion under this agreement.

#### Order of Precedence

The MM Project and Year 5 E-rate Technology Project will utilize California Multiple Award Schedule (CMAS) as the Primary Contracting Vehicle. The order of precedence for the documents referenced by the Purchase Order will be:

- 1) Any addenda
- 2) Purchase Order
- 3) The RFI including all attachments and Specifications
- 4) SDUSD Special Terms and Conditions
- 5) CMAS Special Terms and Conditions
- 6) CMAS General Terms and Conditions

#### Program Schedule

- Direction to proceed with the work is expected to be not before, February 1, 2002.
- All work and contracts are based on final approval from the SDUSD Board of Education. The District reserves the right to void the contract at any time, including following funding by the SLD.
- Completion of all work and services that use E-Rate funding must be no later than June 30, 2003, regardless of notice to proceed date.
- Completion includes the system performance testing, training program, delivery of the equipment manuals, inventory of equipment, and the as-built by school.
- Notwithstanding any other provisions, the Systems Integrator is not required to provide any permits.

#### IX. RFI CONDITIONS

The District reserves the right to accept or reject any and all submittals, or any portion or combination thereof, to contract with whomever and in whatever manner the District decides, to abandon the RFI entirely, to make a selection on the basis of the total submittal, and to waive any informality or non substantive irregularity, as the interests of the District may require.

The vendor's information package, and any other supporting materials submitted to the District in response to this Request for Information will not be returned and will become the property of the District unless portions of the materials are designated as proprietary at the time of submittal, and are specifically requested to be returned. This document does not commit the District to select any vendor.

The District shall not be liable for any costs incurred in preparing and submitting responses to this RFI and makes no representation that a firm will be selected. Furthermore, District reserves the right to add additional firms for consideration after receipt of this RFI if it is found to be in the best interest of the District.

The District reserves the right to make a selection any time up to ninety (90) days from the date of the submittal. The selection of a vendor is at the sole discretion of the District.



## Exhibit A

# San Diego Unified School District Statement of Work For Proposition MM Technology Upgrades



**I. Scope and Purpose of Work to be Performed**

The San Diego Unified School District desires to contract with a firm or firms capable of designing a Local Area Network (LAN) architecture and furnishing and installing all interconnecting LAN hardware necessary to provide a complete functional high speed LAN at the District's elementary and high school campuses.

The selected Contractor shall provide a complete industry standard Local Area Network (LAN) for each E-Rate approved school the Contractor is awarded. For each E-Rate school, the Contractor's design, installation and certification shall meet or exceed the technical specifications as presented in Appendix A Specification 17715 and Appendix B Specification 17720 which are incorporated into this statement of work.

**II. Goals and Objectives**

The Contractor shall be responsible for the development and design of a complete, integrated functioning LAN for each school campus. The Contractor shall then purchase, burn in, warehouse, inventory, test, configure and install all hardware that is required to provide a complete operational LAN meeting the District's performance standards and the specifications in Exhibits B and C for each school campus.

In addition, the Contractor's scope of work shall include, but is not limited to:

- Project Management
- Project Planning
- Project Scheduling
- Coordination with the district's architectural design team
- Adherence to the Specifications in Exhibits B and C
- Quality Control, Quality Assurance
- Installation of equipment at all school locations
- Completion and turnover of all documentation as outlined in the Specifications in Appendices A and B

**III. Design and Coordination**

The Contractor, in collaboration with the District's Architect, shall provide a functional Network Design that meets or exceeds the districts standards and specifications in Exhibits B and C for each school LAN. The Contractor shall coordinate with the District's Information Technology department to formulate an IP addressing scheme that allows for future growth and segmentation of the District's networks prior to installation of any new LAN equipment.

IV. Test and Certification of the Network Cable Plant

The Contractor shall inspect and verify the correctness of the Cable Plant installation and insure that it meets the specifications in Appendices A and B. The Contractor shall accept the cable plant as complete and tested. Once the Contractor has accepted the cable plant as being complete and tested, the Contractor shall provide the District with both soft and hardcopy of the Network Design, test and certification documentation.

V. Network Implementation Plan

As part of the Network Migration Plan, the contractor shall be wholly responsible for, but not limited to the following:

Asset Management

The Contractor shall implement and maintain an Asset Management tracking system to track each piece of new equipment from purchase to installation and commissioning, to include vendor registration. Furthermore, the contractor shall also implement and maintain an asset tracking system to track each piece of de-installed equipment from the schools to warehouse to vendor pickup.

The contractor shall provide soft and hardcopy of all Asset Management objects and databases for new equipment and de-installed equipment to the District and insure that the District is fully proficient in the configuration and use of the Asset Management system and software prior to the work starting on the first award.

Warehousing

As part of the Network Migration Plan, the contractor shall be wholly responsible for equipment procurement and purchase of all necessary active components and any required accessories necessary for a complete functioning LAN.

During the performance of the contract, the Contractor shall ensure that the District shall receive an additional 5 percent credit on all de-commissioned equipment toward the purchase of new equipment.

The Contractor shall receive; warehouse and store all newly purchased items until installation at each school. The Contractor is required to tag, inventory and track all hardware upon receipt in the Contractor's warehouse according to District requirements.

In addition, the Contractor shall also be responsible for receipt and storage of all de-installed equipment until vendor pickup. The Contractor shall provide proof of insurance in an amount sufficient to replace any District equipment that is lost, damaged or stolen while in the Contractor's warehousing facility. The Contractor shall provide physical or electronic security for the warehousing facility twenty-four hours a

day by seven days a week as long as the Contractor is under contract to the District or is responsible for warehousing District assets.

The Contractor shall test all equipment for functionality by un-boxing the equipment to insure all components are present and installed. The Contractor shall burn-in the equipment for 72 hours prior to any schools installations by plugging the equipment into a computer grade electrical circuit. Should any of the District's equipment become damaged due to the Contractors warehouse's electrical premise wiring, the Contractor agrees to replace said equipment at no additional cost to the District.

Prior to delivery to any school, the Contractor shall configure and program all active devices with its IP address, netmask and default route while the equipment is still warehoused.

#### Network Monitoring and Management Software

The Contractor shall implement network monitoring software at each school and at the District's Network Operations Center at the time of each schools installation and demonstrate that the network monitoring software is functioning within the specifications as indicated in Exhibits B and C and that it meets the Districts standards.

#### Test and Certification of Network Components

The Contractor shall insure that each installed school LAN meets the specifications in Exhibits B and C as well as the District's acceptance standards. Once all of the networking components are installed, configured and deemed to be up and fully operational by the District, the Contractor shall test the total LAN for functionality and operation. Once the Contractor has tested the total LAN for functionality and operation and is satisfied the LAN is totally commissioned, the Contractor shall provide to the District in both soft and hardcopy the test and certification results and documentation.

#### Warranty

The Contractor shall provide a two (2) year warranty on the entire LAN and the hardware and other devices provided by the Contractor as part of this contract. A warranty for an "integrated system" refers to two or more hardware and/or software networking components merged together into a single system that performs a specific task or set of tasks.

#### Maintenance

The Contractor shall include a three (3) year maintenance agreement covering all the hardware and software, including firmware, provided by the Systems Integrator as part of this contract. The maintenance service shall be on a Monday-Friday 7AM to 7PM on-call basis.

#### Help Desk Post-Installation Support

The Contractor shall provide and staff a Help Desk that is technically proficient and thoroughly knowledgeable in the District's Wide Area Network (WAN) and LAN configurations. The help desk's primary functions shall be to provide immediate post-installation support for all schools that may encounter networking, hardware or software problems.

The Contractor shall ensure that all problems reported to the help desk personnel are resolved within 4 hours during the first 30 days of any school installation. In the case of a hardware failure, it is the Contractor's responsibility to replace the faulty hardware and if necessary configure any software required to make the hardware equipment operational again within the 4 hour time frame.

The Contractor shall implement a call tracking system that shall generate a weekly report for the District in hard and softcopy that includes but is not limited to the total number of calls received each day, the call generator and location, a detailed description of the problem and its resolution.

#### VI. Training

The Contractor shall provide, but is not limited to, providing training that meets or exceeds the training as outlined in the specifications sections of Appendices A and B.

The Contractor shall provide customized classroom based vendor training classes and materials that specifically address the District's installation and configuration for the following number of District personnel:

- 10 people trained on the operation and maintenance of the hardware
- 10 people trained on configuring and programming the LAN
- 25 people trained on general operation and trouble shooting of the LAN
- 10 people trained in the use of the Network Administration software
- 5 people trained in the use of the Asset Management software

#### VII. Trade-in Upgrade Warranty Protection

The Contractor shall guarantee that the Vendor shall provide upgrade and End-of-Life protection for a period of 5 years on all hardware and software procured under this award.

**VIII. Contractor Deliverables**

The Contractor shall provide, but is not limited to, the following deliverables:

**Work Plan**

The Contractor shall present Work Plans to the District for acceptance before a Notice to Proceed will be issued. The Work Plans shall define the scope of work, specifications, schedules, and acceptance and completion criteria for each task and each school and a firm fixed price to perform the work. Changes (e.g. in scope of the services hereunder) must be mutually agreed-upon prior to beginning work. Work Plans will be reviewed and either returned for changes or approved within a maximum of 30 days from the date of submittal.

At a minimum, the work plan should contain:

1. The Contractor's safety plan for day-to-day work on each school site.
2. Specific identification (type and location) of any hazardous materials (asbestos, lead based paint, etc.) that may be encountered.
3. List of all equipment to be installed, and location of said equipment (switches, MDFs, BDFs and CDFs).
4. Power requirements to support the LAN hardware.
5. The Contractor's on-site administrative and staging areas, if any.
6. Quality Control Plans shall be submitted to the District with the work plans.
7. Phasing plan for executing the work. Shall show when work will start at each site, when deliveries of supplies and equipment will be made, when each building and classroom will be needed for completing the connections, and completion date at the site.
8. Plan to transition existing network to the new network
9. Plan for storing and safeguarding delivered supplies and equipment prior to installation.
10. A list identifying on-site employees, vehicles and equipment.

**Quality Control Plan**

The Contractor shall provide a Quality Control Plan (QCP) that describes how the Contractor shall ensure the timeliness, cost control, and quality of his work under this contract. This QCP shall be submitted to and approved by the District along with the Work Plan. It shall identify whom the Contractor's primary person will be for inspection of the materials received, quality of the work performed, and safety of the job site.

**Project Plan**

In order to develop the LAN architecture, the District's Design Architect will provide school facility plans to the Contractor. The Contractor in turn shall provide to the District a Project Plan that meets or exceeds the District's project plan criteria at least seven days prior to commencing work on any District school or facility.

**School Campus Cost Estimate**

The Contractor shall provide in both hard and softcopy 30 days prior to the start of work at any school a School Campus Cost Estimate spreadsheet that includes but is not limited to the following:

School: The name of the school campus  
School Type: EL-Elementary, HS-High School, MS-Middle School, ATY-Atypical (not a standard grade grouping)  
Construct Year: The month and year construction will start on a school campus  
Total Classroom switches by make and model  
Total library switches by make and model  
Total lab switches by make and model  
Total building switches by make and model  
Core switches by make and model  
Cost estimate for cable plant acceptance  
Cost estimate for LAN certification  
Total of overall projected school costing

**Weekly Status Reports**

The Contractor shall provide a weekly written status report which includes:

- A review of work performed for the week concluded
- A listing of work to be performed over the next three weeks
- A listing of any problems encountered or foreseen with suggested solutions
- A Post-Installation Help Desk Report

The Contractor shall deliver these reports to the District Representative weekly in both soft and hardcopy.

**Testing and Acceptance**

A Test and Acceptance plan shall be provided as part of each Work Plan. The Test and Acceptance plan shall include the scope of testing, test plan objectives, applicable standards, responsibilities, test schedule, test procedures, acceptance criteria, corrective procedures, test and acceptance reporting and test equipment. Additionally, the Contractor shall be expected to perform Visual Inspection of the installation of the cable plant, review the General Contractor's cable testing plan, and accept the General Contractors Category 5e UTP Cable tests and Fiber Optic Cable tests. The Contractor may hire an independent testing agency to verify the cable test results.

**Network Certification**

The Contractor shall perform a Network Certification test for each school campus as specified in specification Appendices A and B.

The Contractor shall perform Network Performance Tests, Network Connectivity Tests and a Physical Configuration Audit. The Contractor shall provide these reports to the District in both hard and softcopy by the close of the next business day prior to work completion.

**As-Built Documentation**

The Contractor shall provide as-built drawings of the completed system in electronic format (District designated version of Visio) within three (3) weeks of completion of physical work at each school site. These shall be delivered to the District prior to beginning of the acceptance testing by the District.

**Vendor Equipment Manuals**

The Contractor shall provide in hard and softcopy a complete inventory list of all Vendor Equipment manuals that are shipped with each piece of vendor hardware/software. The Contractor is not to provide or distribute any manuals without first obtaining written authorization from the District as to who receives manuals and how many copies they are allocated. The Contractor shall not destroy or remove any manuals or software without first obtaining written authorization from the District.

**Asset Management**

The Contractor shall implement a commercially available Asset Management Software program to track each piece of equipment and/or software from purchase to installation and commissioning. The program and any of its related objects and databases, shall be provided by the Contractor to the District. The Contractor shall provide in both hard and soft copy a weekly report that details the Asset Management of the Districts hardware and software by the Contractor.

**Warranty & Maintenance Documentation**

Prior to the start of any project work, the Contractor shall provide in writing a two (2) year warranty on the entire LAN and the hardware, software and other devices provided by the Contractor as part of this contract. A warranty for an "integrated system" refers to two or more hardware and/or software networking components merged together into a single system that performs a specific task or set of tasks. In addition, The Contractor shall provide in writing a three (3) year maintenance agreement covering all the hardware and software, including firmware, provided by the Contractor as part of this contract. The Contractor shall register within the vendor or manufacturer's warranty period either electronically or through the postal service any and all hardware and software warranty information that is required by the vendors or manufacturer's equipment the Contractor is providing for the District. The Contractor shall provide to the District both hard and softcopy warranty information of all equipment or software the Contractor registers within seven days of registration.

**Training Documentation**

The Contractor shall provide to the District in both hard and softcopy the following training documentation and software 30 days prior to the start of the contract:

- Contractor's approach to Hardware/Firmware/Software Training for District Staff
- Contractor's Recommended Training for District Staff
- Contractor's Training included with systems installed
- Availability of Contractor's Training/Certification
- Location of Nearest Three (3) Certified Technical Training Vendors
- Customized classroom training modules and documentation
- Customized CD-ROM training modules and documentation

**IX. District responsibilities:**

1. Once Contractor and Sub-Contractor personnel have followed District's security access requirements (badges, sign in logs), access to facilities will be granted.
2. Work plans are not considered completed until Final acceptance testing is granted by the District.
  - i. Final acceptance is achieved by (fill in by District)
3. Scheduled preventative maintenance will be performed by the District's staff according to manufacture's guidelines.

**X. Other Contract Considerations:**

1. California Multiple Award Schedule (CMAS) as the Primary Contracting Vehicle.



The District will issue a Purchase Order for each increment of work to be performed by a Systems Integrator. The Purchase Order will reference the CMAS contract, SDUSD special terms and conditions, CMAS special and standard terms and conditions, the RFI and the Response to this Request for Information. Acceptance of the purchase order will constitute a valid contract for Schools and Library Division (SLD) of the Federal Communication Commission which funds E-rate. A Notice to Proceed will be issued to the System Integrator prior to beginning any work. The District retains the right to void the contract at any time, including after the award of funding by the SLD. The District will select one or more CMAS Certified Systems Integrators. The District will request a group of School Campus Cost Estimates for a package of schools which will become the basis of a Purchase Order under the CMAS contract. While the packages are submitted with a per-school cost, the funding by the SLD is on a per-package basis allowing for some flexibility within the packages. After the LAN architecture is developed and agreed to between the District, the District's Architectural Design Team and the System Integrator, the School Campus Cost Estimate may be adjusted and the per school price will be fixed and documented in the Notice to Proceed. If multiple Systems Integrators are selected, all Systems Integrators may submit pricing information for a particular package, so award to a particular Systems Integrator must not be assumed until specifically notified that the work has been awarded to them.

2. The District intends to contract with the selected Systems Integrators for a period of one year, from January 2002 and ending December 2002. The Systems Integrators will be issued notices to proceed for projects that begin construction during that one year period for which the installation of the LAN equipment may occur up to 9 months after the start of construction. The District will evaluate the performance of the selected Systems Integrators near the end of the one year term and may elect to issue a new RFI to select Systems Integrators for the next one year period.
3. Fingerprinting : The System Integrator and all subcontractors shall obtain a criminal history clearance in conformance with California Education Code Section 45122.1 through the California Department of Justice fingerprint program. The System Integrator shall not permit any employee or any subcontractor's employee to perform services at a school campus until the California Department of Justice has determined that the employee has not been convicted nor has criminal charges pending of a felony offence as defined in the Education Code section 45122.1
4. Performance and Payment Bonds: The System Integrator shall provide Payment and Performance Bonds in the amount of 100% of the Purchase Order Amount prior to beginning work on any component of the work. The System Integrator team shall include a firm with a California Class C Contracting License.

**5. CBI**

**XI. Payment Process:**

The District will pay The System Integrator 50% of the non-SLD funded portion after the District deems the installation complete, an additional 40% after successful performance testing of the installed LAN at each school campus. The remaining 10% within 30 days after submission and acceptance by the District of all required documents including warranty, as-builts and successful completion of all other contract requirements such as training.



**Exhibit "A"**

**SCOPE OF WORK**

The Contractor will be responsible to develop a design for a complete, integrated functioning LAN for each school campus. The System Integrator will then purchase, burn in, warehouse, inventory, test, configure and install all hardware that is required to provide a complete operational LAN meeting the District's performance standards at a school campus.

In general the Contractor's Scope of Work will include, but not be limited to:

- Design- Provide a functional design for each school LAN. Coordinate with District's IT department to formulate IP addressing scheme.
- Equipment Procurement- Purchase all necessary active components and any required accessories necessary for a complete functioning LAN.
- Asset Management- Implement and maintain an asset database to track each piece of equipment from purchase to installation and commissioning.
- Warehouse- Receive and store all purchased items until installation at a school.
- Test- Test all equipment for functionality after receipt at the warehouse.
- Burn In- Operate all equipment for a defined period prior to installation at a school location.
- Configure- Program active devices including IP addressing for each school network prior to delivery to a school location.
- Cable Plant Confirmation- Inspect and verify the correctness of the Cable Plant installation. Accept the cable plant as complete and tested.
- Install Equipment- Install all equipment at a school location
- Commission- Test the total LAN for functionality and operation.

The Contractor will work with the District and the District's Architectural Design team to design the LAN architecture using a hierarchical topology. The Architectural Design team will design the LAN cable plant including all cabling, raceway and equipment enclosures in conformance with Specification 17715. The District will contract with a General Contractor for the installation of the Architectural Design Team designed cable plant.

The Contractor will procure all necessary hardware (including switches, routers, and hubs), interconnecting cables and power filtering equipment in accordance with Specification 17720. The hardware will be tracked, received and inventoried at the Contractor's storage facility. Once the hardware is inventoried, it will be tested, burned in and configured for a specific school campus LAN configuration. Once the cabling and the equipment enclosures are installed by the General Contractor, tested and accepted as complete by both the District and the Contractor, the Contractor shall install all equipment, provide any interconnecting wiring necessary for a complete LAN and complete performance tests to confirm the LAN operation.

The LAN shall connect all classrooms, administrative and other functional spaces within an overall school campus. The LAN shall begin with the router, which interfaces with the District WAN. The scope of the equipment furnished shall consist of routers, switches, hubs and interconnecting cabling for routers, switches and hubs within each equipment enclosure. All cabling between equipment enclosures and to the wall-plates and to any computing equipment from the wall plates to the desk tops is not part of the scope of this RFI.

The District has developed an aggressive design and construction schedule for the upgrade of the District's schools. The District plans to install an upgraded LAN in approximately 125 schools over the next four years. The current schedule indicates the District may be upgrading up to 50 schools in any one year. In addition, the District plans to install a complete LAN in 14 new schools over the next six years.

**The Scope of Work of the Contractor is further defined in the attached Specification 17720- Systems Integration (Exhibit B). The scope of work of the Architect and General Contractor is further defined in attached Specification 17715- Premises Wiring (Exhibit C). It is the responsibility of the Contractor to provide any necessary wiring, connections or accessories not defined in Section 17715 but required for a fully functioning LAN at each school campus.**



## SECTION 17720

### LOCAL AREA NETWORK SYSTEMS INTEGRATION

#### PART 1 – GENERAL

This specification describes the design, installation, testing, and documentation of all necessary hardware components for San Diego Unified School District (SDUSD) local area networks (LANs). This specification provides product performance requirements, general design considerations, and installation guidelines. The Contractor will be required to furnish all labor, supervision, tooling, miscellaneous mounting hardware, and consumables for all systems installed. In addition, the Contractor shall provide network design services for individual schools to achieve LAN connectivity for all classrooms, computer laboratories, libraries, instructional areas and work areas, as specified. It is the Contractor's responsibility to propose, acquire and provide any and all items required for a complete operational system.

#### 1.01 DEFINITIONS

##### A. Definitions.

1. The Classroom Distribution Facility (CDF) is a wall-mounted cabinet that serves as the termination point for CAT 5e cabling within each classroom and houses the Edge Switch.
2. The Building Distribution Facility (BDF) is located between the MDF and the CDFs and provides a network access point for the network cable plant and houses any Building Switches or PPF.
3. The Main Distribution Facility (MDF) is the building or structure that serves as the network entry point that houses the router and CS that provides network connectivity to the District Wide Area Network and the school campus LAN.
4. The Patch Panel Facility (PPF) is located in the BDF and provides a network termination/connection point for all network cable plant runs coming from the MDF and going to the CDF.
5. The Edge Switch (ES) is the end point that provides network connectivity to the classrooms, libraries and computer labs. The ES also serves as the network termination point for the cabling within each CDF.
6. The Building Switch (BS) is the connection point between the Core Switch and the Edge Switch.
7. The Core Switch (CS) is the network nucleus point of any school campus. The Core Switch will be a layer 3 network device, as it serves as the central point for LAN network connectivity to the router and all CDFs and BDFs and provides network termination.
8. The Contractor as referenced herein is a firm or group of firms that will provide systems integration, hardware purchase, hardware preparation and installation.

#### 1.02 CUSTOMIZED SERVICES

Principal items of work shall include, but are not limited to, the following:

A. Design services, including the network connectivity design. The resulting general network configuration described below is illustrated in the "LAN General Depiction" in Section 4 of this Specification. The Contractor's design shall:

1. In coordination with the Project Architect, locate the Main Distribution Frame (MDF), Building Distribution Frames (BDFs) and Classroom Distribution Frames (CDFs) at each campus. The

MDF shall be located as close to the Main Point of Presence (MPOP) as practical. BDFs shall be located within the campus buildings and in sufficient quantity to maintain compliance with the horizontal cable running distance limitations as specified in American National Standards Institute/ Telecommunications Industry Association/Electronic Industries Alliance (ANSI/TIA/EIA) standard 568B. CDFs shall be installed in classrooms, computer labs and libraries and other work areas to distribute network connections to workstations within the rooms.

2. In coordination with the SDUSD IT department formulate an IP addressing scheme.
3. In conjunction with the Project Architect prepare a migration plan defining how an existing school campus LAN will remain in service during the installation of the new LAN.
- B. Prepare a listing of all active hardware as defined in this specification required for a complete operating LAN.
- C. Procure all active hardware and receive, inventory and warehouse.
- D. Develop a process and procedure and burn in, test and configure all active hardware prior to delivery to the school site, including IP addressing and layer 3 functionality.
- E. Install all hardware and ancillary equipment at the school campus to provide a complete functioning LAN.
- F. Develop a complete process and procedure and perform testing and commissioning of the entire campus LAN.
- G. Provide the following active hardware:
  1. Provide a router in the MDF as an interface allowing the local network to connect to the centralized District Wide Area Network (DWAN).
  2. Provide the minimum capability of a chassis-based modular switch with modular interface cards in the MDF as a Core Switch (CS).
  3. Provide a minimum of one active 1000Base-SX or 1000Base-LX uplink from each Edge Switch (ES), located in the Classroom CDFs, to the Core Switch at the time of initial configuration and installation.
  4. Provide one auto-negotiating 10Base-T/100Base-TX switched port for each data port within the room or rooms supported by that switch at time of initial configuration and installation.
  5. Test all electrical circuits before plugging in any network equipment.
  6. Provide surge protectors as required to protect all network hardware.
- H. Connectivity design documentation. The Contractor shall provide the following connectivity design documentation:
  1. Drawing of logical and physical network configuration in hard copy and in AutoCAD 2000 soft copy format.
  2. Complete IP addresses for each active device.
  3. Complete VLAN configurations.
  4. A material list specifying quantity and part/specification numbers on a classroom, computer lab, library, or administration room to include; each CDF, BDF, and MDF on a cabinet by cabinet basis.
  5. Projected Installation schedule and Timelines.



6. Contractor must coordinate cable runs, rack equipment locations with the Architect during the initial design of the cable installation. Contractor and Architect and SDUSD must agree as to the final location of all devices and the cable plant design.
- I. Materials and Interoperability. The Contractor shall furnish, install, connect, and test the networking system, including all active components in accordance with design services furnished under this Specification.
- J. Supervision. The Contractor shall provide the supervision necessary to design and install a complete and operational system that meets or exceeds the SDUSD's networking design requirements and standards.
- K. Design and implementation services shall be in accordance with applicable TIA and EIA Standards as indicated herein.

### **1.03 RELATED SECTIONS**

- L. Section 17715: Premises Wiring.

### **1.04 CODES AND STANDARDS**

- A. Underwriters Laboratories Inc. (UL): Applicable listings and ratings.
- B. UL LAN Cable Certification Level 5.
- C. National Electric Code (Articles 770, 800, latest issue).
- D. California Electrical Code.
- E. National, State, and Local Occupational Safety and Health Administration (OSHA) building and fire codes.
- F. ANSI/TIA/EIA Telecommunications Building Wiring Standards.
- G. ANSI/TIA/EIA-568-A, Commercial Building Telecommunications Cabling Standard (October 1995).
- H. ANSI/TIA/EIA-568-A-2, Corrections and Additions to TIA/EIA-568-A-2 (August 1998).
- I. ANSI/TIA/EIA-568-A-3, Addendum No. 3 to TIA/EIA-568-A (December 1998).
- J. ANSI/TIA/EIA-568-A-5, Transmission Performance Specifications for 4-Pair 100 ohm Category 5E Cabling (February 2000).
- K. ANSI/TIA/EIA-568-B-3, Optical Fiber Cabling Components Standard (March 2000).
- L. ANSI/TIA/EIA-569-A, Commercial Building Standard for Telecommunications Pathways and Spaces (February 1998).
- M. ANSI/TIA/EIA-569-A-1, Commercial Building Standard for Telecommunications Pathways and Spaces Addendum 1 - Surface Raceways (March 2000).
- N. ANSI/EIA/TIA-598-A, Optical Fiber Cable Color Coding (May 1995).
- O. ANSI/TIA/EIA-606, The Administration Standard for the Telecommunications Infrastructure of Commercial Building (February 1993).
- P. ANSI/TIA/EIA-607, Commercial Building Grounding and Bonding Requirements for Telecommunications (August 1994).
- Q. ANSI/TIA/EIA-758, Customer-Owned Outside Plant Telecommunications Cabling Standard (April 1999).